2.3 Targets and Objectives

The Castledockrell Wind Farm will continue to be operated to an approved standard and codes of practice. This OEMP considers environmental issues and this is enhanced by the works proposals during operation, as set out in the EIAR.

The key site targets are as follows:

- Ensure decommissioning works and activities are completed in accordance with mitigation and best practice approach presented in the accompanying Environmental Impact Assessment Report (EIAR) and associated planning documentation;
- Ensure decommissioning works and activities have minimal impact/disturbance to local landowners and the local community;
- Ensure decommissioning works and activities have minimal impact on the natural environment;
- Adopt a sustainable approach to decommissioning; and,
- Provide adequate environmental training and awareness for all project personnel.

The key site objectives are as follows:

- Using recycled materials if possible, e.g. spoil and overburden material for backfilling and reinstatement where available;
- Ensure sustainable sources for materials supply where possible;
- Avoidance of any pollution incident or near miss and having emergency measures in place;
- Avoidance of vandalism;
- Keeping all drainage channels free from obstruction and debris;
- Correct implementation of decommissioning works to a minimum on the local environment, watercourses, and wildlife.
- Correct fuel storage and refuelling procedures to be followed;
- Good waste-management and housekeeping to be implemented;
- Air and noise pollution prevention to be implemented;

Monitoring of the works and any adverse effects that it may have on the environment. Decommissioning methods will be altered where it is found there is the potential to have an adverse effect on the environment;

2.4 Wind Farm Operation Overview

An appointed Operators Controller will install a Site Manager to manage the day-to-day operation of the existing wind farm. The Site Manager will be responsible for ensuring compliance with this OEMP and any revisions made to this document throughout the operation. An overview of the anticipated operational phase activities is provided below.

2.4.1 Turbine and Associated Infrastructure Maintenance

The existing wind farm site will continue to be the subject of on-going maintenance of the wind turbines and associated infrastructure throughout the operational life of the site. This will be undertaken by turbine suppliers and site personnel who will manage and operate the site from the onsite control building at Castledockrell Wind Farm. All site roads will continue to be subject to maintenance, including surfacing works to maintain operational site access. The turbine and associated infrastructure maintenance will not require significant plant or equipment, with all works localised in nature with operatives using vans to access the site and transport their equipment.

2.4.2 Shadow Flicker Monitoring

An assessment of the potential effects associated with shadow flicker was undertaken using the WindPRO computer software to model the predicted daily and annual shadow flicker levels in significant detail. As part of this assessment, it was determined that exceedances of the daily threshold for shadow flicker as per the ***'Wind Energy Development Guidelines for Planning Authorities'*** (Department of the Environment, Heritage, and Local Government (DoEHLG), 2006) (hereafter referred to as DoEHLG 2006 Guidelines) would be experienced at 18 no. properties. The assessment found that of the 18 no. properties, 15 no. are third-party inhabitable dwellings and 3 no. properties are occupied by participating landowners.

If it is not possible to mitigate any identified shadow flicker limit exceedance locally using screening measures in cooperation with landowners, wind turbine control measures will be implemented.

Wind turbines can be fitted with shadow flicker control units to allow the turbines to be controlled to prevent the occurrence of an exceedance of shadow flicker limits at properties surrounding the wind turbines. The shadow flicker control units will be added to any required turbines. A shadow flicker control unit allows a wind turbine to be programmed and controlled using the wind farm's SCADA control system to change a particular turbine's operating mode during certain conditions or times, or even turn the turbine off if necessary.

All predicted incidents of shadow flicker can be pre-programmed into the wind farm's control software. The wind farm's SCADA control system can be programmed to shut down any particular turbine at any particular time on any given day to ensure that shadow flickers occurrences at properties which are not naturally screened or cannot be screened with measures outlined above.

In order to demonstrate how the SCADA control system can be applied to switch off particular turbines at the relevant times and dates. Table 2-1 lists the 15 no. third-party properties at which a shadow flicker mitigation strategy may be necessary to ensure the 2006 DoEHLG Guidelines 30-minute per day shadow flicker threshold is not exceeded. In this case, the relevant turbine(s) would be programmed to switch off for the time required to reduce daily shadow flicker to a maximum of 28 minutes, which is below the guideline limit of 30 minutes. The SCADA control system would be utilised to control shadow flicker in the absence of being able to agree suitable screening measures with the relevant property owner. The mitigation strategy outlined in Table 2-1 below is based on a theoretical precautionary scenario. The details presented in Table 2-1 list the days per year and the turbines that could be programmed to switch off at specific times, in order to reduce daily shadow flicker to a maximum of 28 minutes, which is below the guideline limit of 30 minutes.

Table 2-1 Shadow Flicker Mitigation Strategy – Turbine Numbers and Dates

Property No.	No. of Days 30min/day Threshold is Exceeded	Turbine(s) Producing Shadow Flicker	Days of Year When Mitigation May be Required (Dates)*	Post-mitigation Maximum Daily Shadow Flicker (hrs:mins:sec)
1	111	T07, T08, T10	4th February - 7th March, 9th - 17th March, 26th September - 5th October, 7th October - 8th November, 6th - 31st December	00:28:00
3	48	T08, T10	6th - 29th March, 14th September - 7th November	00:28:00
4	44	T08, T10	19th March - 9th April, 3rd - 24th September	00:28:00
5	46	T08, T10	20th February - 13th March, 30 September - 22 October	00:28:00
8	40	T08, T10	8th - 27th March, 16th September - 5th October	00:28:00

9	41	T08, T10	27th February - 18th March, 26 September - 15th October	00:28:00
10	92	T01, T02, T11	1st January - 9th February, 3rd November - 31 December	00:28:00
14	85	T01, T02, T11	1st January - 2nd February, 10th November - 31 December	00:28:00
17	100	T08, 10	1st January - 12th February, 31st October - 19th December, 25th December - 31st December	00:28:00
18	95	T08, 10	1st January - 12th February, 1st November - 17th December, 27th December - 31st December	00:28:00
20	95	T02, T08, T09,	1st January – 1st February, 27th February – 3rd March, 10th October – 15th October, 11th November – 31st December	00:28:00
23	65	T08, T10	4th January - 5th February, 7th November - 9th December	00:28:00
26	28	T01	22nd January - 4th February 8th November - 21st November	00:28:00
29	82	T08, T10	1st January - 1st February, 11th November - 16 November 18th November - 31st December	00:28:00
36	51	T08, T09	1st January - 16th January, 27th November - 31st December	00:28:00

**Note: days of year are based on the model undertaken in 2024*

Where a shadow flicker mitigation strategy is to be implemented, it is likely that the control mechanisms would only have to be applied to one turbine to bring the duration of shadow flicker down to the 28-minute post-mitigation shadow flicker target.

However, the prediction model will still require verification on resumption of operation due to the limitations of the computer modelling. Where an exceedance of the daily threshold is experienced, the appropriate mitigation will be implemented.

2.4.3 Turbine Noise Modelling

An operational noise assessment was undertaken for the Proposed Development to compare predictions from the proposed extension of the operational period against existing consented noise limits to demonstrate compliance with noise conditions of attached to the previous grant of permission for the site. (Pl. Ref. WCC 2004/4702 and ABP Pl. Ref. 26.211725). Details of the same can be found in Chapter 11 of the EIAR: Noise and Vibration.

The assessment was undertaken to determine whether the Proposed Development could operate within the existing consented noise limits, and it was concluded that the wind turbine noise emissions on all noise receptors were below the consented noise limits.

Additionally, Castledockrell Wind Farm T12 was permitted under a separate planning permission (Planning Permission 20080335) and is considered cumulatively in the operational noise assessment. In undertaking the above assessment, all operational noise level measurements and predicted noise impacts have taken into consideration all 12 no. wind turbines and have demonstrated compliance when considering cumulative impacts.

It should be further noted that there have been no operational noise complaints from the site and compliance monitoring undertaken at the site previously have demonstrated that the wind farm was operating within its noise conditions. If specific conditions arise that significant and consistent Amplitude Modulation (AM) is generated, the operator can vary the operating mode to sufficiently mitigate the generation of AM or reduce the overall noise level in comparison to achieve set noise limits A Noise Management Plan has been included in Appendix 11-11 detailing the measurement methodology to be applied to any justified noise complaints from local residents. The future operation of the Proposed Development will adhere to any noise compliance requirements that may be conditioned subject to the outcome of the planning application.

3. ENVIRONMENTAL MANAGEMENT

3.1 Site Drainage

During the operational phase, various combinations/adaptations of the runoff control and drainage management measures will be employed at the site depending on the local conditions and topography. These include:

- Natural vegetation filters are used regularly across the site where the local drainage and topography allowed attenuation of surface water runoff.
- Where possible, interceptor drains are installed up-gradient of infrastructure to collect clean surface runoff, in order to minimise the amount of runoff reaching areas where suspended sediment could become entrained. It is now directed to areas where it can be re-distributed onto natural vegetation.
- Swales/roadside drains are used to collect runoff from access roads and turbine hardstanding areas of the site, likely to have entrained suspended sediment, and channel it onto natural vegetation filters.

With regards to existing wind farm and substation infrastructure, the development mainly adopts an "over the edge" drainage approach in conjunction with sections of roadside drainage swales. Site drainage measures were installed during the construction which have been since removed as the site has naturally revegetated overtime. As the operation of the wind farm continues, these areas within the site will continue to revegetate resulting in a resumption of the natural drainage management that will have existed prior to any construction. It is not anticipated that the continued operation of the wind farm will interrupt this restored drainage regime in any way. The revegetation of disturbed areas and return to the pre-construction drainage regime at the site, as the operational phase progressed, has resulted in the reduction to the requirement for maintenance of drainage infrastructure.

3.1.1 Refuelling, Fuel and Hazardous Materials Storage

Any plant and equipment used during the operational phase will require refuelling during the works. Appropriate management of fuels will be required to ensure that incidents relating to refuelling are avoided. The following mitigation measures are proposed to avoid release of hydrocarbons at the site:

- Road-going vehicles will be refuelled off site wherever possible;
- On-site refuelling will be carried out at designated refuelling areas at various locations throughout the site. Machinery will be refuelled directly by a fuel truck that will come to site as required
- Only designated trained and competent operatives will be authorised to refuel plant on site. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- Fuel volumes stored on site should be minimised. Any fuel storage areas will be bunded appropriately for the fuel storage volume;
- The onsite electrical control building at Castledockrell is bunded appropriately to the volume of oils being stored to prevent leakage to groundwater or surface water. The bunded area is fitted with a storm drainage system and an appropriate oil interceptor;
- The plant used will be regularly inspected for leaks and fitness for purpose; and,
- An emergency plan for the operational phase to deal with accidental spillages will be developed Spill kits will be available to deal with and accidental spillage in and outside the refuelling area.
- A programme for the regular inspection of plant and equipment for leaks and fitness for purpose will be developed at the outset of the operational phase.

3.1.2 Spill Control Measures

Every effort will be made to prevent an environmental incident during the operational phase of the project. Oil/fuel spillages are one of the main environmental risks that will exist on the site which will require an emergency response procedure. The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. The following steps provide the procedure to be followed in the event of such an incident:

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers.
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident.
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill.
- If possible, cover or bund off any vulnerable areas where appropriate such as drains, watercourses or sensitive habitats.
- If possible, clean up as much as possible using the spill control materials.
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited.
- Notify the Site Manager immediately giving information on the location, type and extent of the spill so that they can take appropriate action.
- The Site Manager will inspect the site and ensure the necessary measures are in place to contain and clean up the spill and where necessary appoint a specialist contractor to undertake the clean-up and prevent further spillage from occurring.
- The Site Manager will notify the appropriate regulatory body such as Wexford County Council, and the Environmental Protection Agency (EPA), if deemed necessary.

The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. Environmental incidents are not limited to just fuel spillages. Therefore, any environmental incident must be investigated in accordance with the following steps.

- The Site Manager must be immediately notified.
- If necessary, the Site Manager will inform the appropriate regulatory authority. The appropriate regulatory authority will depend on the nature of the incident.
- The details of the incident will be recorded on an Environmental Incident Form which will provide information such as the cause, extent, actions and remedial measures used following the incident. The form will also include any recommendations made to avoid reoccurrence of the incident.
- If the incident has impacted on a sensitive receptor such as an archaeological feature the Site Manager will liaise with the Project Archaeologist.
- A record of all environmental incidents will be kept on file by the Site Manager and the Main Contractor. These records will be made available to the relevant authorities such as Wexford County Council, EPA if required.

The Site Manager will be responsible for any corrective actions required as a result of the incident e.g. an investigative report, formulation of alternative works methodologies or environmental sampling, and will advise the Operators Controller as appropriate.

3.2 Noise Control

The operation of plant and machinery, including site vehicles, is a source of potential impact that will require mitigation at all locations within the site. Proposed measures to control noise include:

- Limiting the hours during which site activities likely to create noticeable levels of noise or vibration are permitted;

- Establishing channels of communication between the Applicant or contractor, Local Authorities and residents;
- Selection of plant with low inherent potential for generation of noise and/or vibration;
- No plant or machinery will be permitted to cause a public nuisance due to noise;
- The best means practicable, including proper maintenance of plant, will be employed to minimise the noise produced by on site operations.
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of works;
- Compressors models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;
- Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use; and
- The hours of maintenance works (and associated traffic movements) will, insofar as possible, be limited to avoid unsociable hours. Activities shall generally be restricted to between 07:00hrs and 19:00hrs Monday to Friday and between 07:00hrs and 13:00hrs on Saturdays, with no activities on Sundays or public holidays unless in the event of an emergency.

Given the reduced scale of plant and equipment that will be used during operations in comparison to the construction phase, it is not anticipated that impacts associated with noise from plant and equipment will be experienced during operation when considering no significant impact was experienced during construction. However, the appropriate mitigation has been provided above for implementation as required.

The operational noise emissions from the Proposed Development have been demonstrated to comply with both the noise limits as set within the Wexford County Council recommended Condition 8 and the DoEHLG 2006 Guidelines +5dB at night-time. Consequently, no mitigation is currently deemed necessary. However, it is acknowledged that if specific conditions arise that significant and consistent AM is generated, the operator can vary the operating mode of the wind turbines to sufficiently mitigate the generation of AM or reduce the overall noise level in comparison to achieve set noise limits.

3.3 Traffic Management

The ongoing turbine and general site maintenance will be completed by personnel using normal road going vehicles with an average of 2 vans per day during specific maintenance periods. The small volumes of traffic and intermittent nature of the works will not require any specific traffic management.

3.4 Implementation

3.4.1 Roles and Responsibilities

The Site Manager will be the project focal point relating to operation-related environmental issues.

In general, the Site Manager will maintain responsibility for monitoring site operations and Contractors/Sub-contractors from an environmental perspective. The Site Manager will act as the regulatory interface on environmental matters. The Site Manager will be responsible for reporting to and liaising with Wexford County Council and other statutory bodies as required.

The Operation Controller will be responsible for employing the services of a suitably qualified ecologist, ornithologist and any other suitably qualified professionals as required throughout the operational phase.

3.4.2 Health and Safety

During the operational phase there will be ongoing maintenance of the wind turbines and associated infrastructure. Access to the turbines is through a door at the base of the structure, which will be locked at all times outside maintenance visits. ESB retains the rights to access the grid connection cables and substation as part of their routine infrastructure inspections.

Staff associated with the project will conduct frequent visits, which will include inspections to establish whether any signs have been defaced, removed or are becoming hidden by vegetation or foliage, with prompt action taken as necessary.

3.4.3 Environmental Induction

The Environmental Induction will be integrated into the general site induction on a case-by-case basis for each member of staff employed on-site depending on their assigned roles and responsibilities on site. Where necessary, the Environmental Induction will as a minimum include:

- A copy of the OEMP and discussion of the key environmental risks and constraints;
- A discussion of the applicable Works Method Statement;
- The roles and responsibilities of staff, including contractors, in relation to environmental management; and,
- An outline of the Environmental Incident Management Procedure.

3.4.4 Toolbox Talks

Toolbox talks will be held by the Site Manager at the commencement of each day, or at the commencement of new activities where required. The aims of the toolbox talks are to identify the specific work activities that are scheduled for that day or phase of work. In addition, the necessary work method statements and sub plans would be identified and discussed prior to the commencement of the day's activities.

Site meetings would be held on a regular basis involving all site personnel. The objectives of site meetings are to discuss the coming weeks activities and identify the relevant work method statements and sub plans that will be relevant to that week's activities. Additionally, any non-compliance identified during the previous week would also be discussed with the aim to reduce the potential of the same non-compliance reoccurring.

4. MITIGATION PROPOSALS

All mitigation measures relating to the operational phase of the Proposed Development were set out in the various sections of the Environmental Impact Assessment Report (EIAR) which accompanies this planning application.

This section of the OEMP groups together all of the mitigation measures presented in the planning documentation. The mitigation measures are presented in Table 4-1 below.

By presenting the mitigation proposals in the below format, it is intended to provide an easy to audit list that can be reviewed and reported on during the operational phase of the project. The tabular format in which the below information is presented, can be further expanded upon during the course of operation and provides a reporting template for site compliance audits.

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		Operational Phase		
MM1	EIAR Chapter 4	During the operational period, on a day-to-day basis the wind turbines will operate automatically, responding by means of anemometry equipment and control systems to changes in wind speed and direction. Turbine output, performance, wind speeds and responses to any key alarms will continue to be monitored. All operational works in-site will be carried out in strict adherence with the Applicant's Health and Safety Policies and Procedures. Each turbine will continue to be subject to a routine maintenance programme involving monthly checks and intermittent changing of consumables, including oil changes. In addition, there will be a requirement for unscheduled maintenance, which could vary between resetting alarms to major component changes requiring a crane. All site roads will continue to be subject to maintenance, this includes surfacing works to maintain operational site access. Typically, maintenance traffic will consist of four-wheel drive vehicles or vans. The wind farm manager will continue to attend the site regularly to perform inspections and oversee maintenance works. An Operation and Environmental Management Plan (OEMP) has been prepared for the Proposed Development and is included as Appendix 4-3 of this EIAR.		
MM2	EIAR Chapter 5	Regarding Health and Safety during the operational phase: › **Access to the wind farm site is through a locked gate entered via the L2012** Local Road to the west of the Proposed Development site. An Operational Controller (OC) monitors site activity 24/7, including monitoring weather conditions and turbine performance on site. › **All visitors must undertake a site induction and log entry to the site on a** specific app "Skylark Control". The access log is monitored by the OC to ensure anyone who has booked onsite also books offsite safely. If there is an		

		incident or emergency onsite the OC will enact the Emergency Response Procedure for the wind farm and coordinate the emergency services to the incident. › Access to the turbines is through a door at the base of the structure, which will be locked at all times outside maintenance visits. The OC's number is displayed at the entrance of the existing wind farm site and at each turbine door. › Signs have also been erected at suitable locations across the site, including at the main gate of the wind farm site and the entrance of each turbine, for the ease and safety of operation of the wind farm. These signs include: › Buried cable route markers at regular intervals and change of cable route direction; › Directions to relevant turbines at junctions; › "No access to Unauthorised Personnel" at appropriate locations › Speed limits signs at site entrance and junctions; › "Warning these Premises are alarmed" at appropriate locations; › "Danger HV" at appropriate locations; › "Warning – Keep clear of structures during electrical storms, high winds or ice conditions" at site entrance; › "No unauthorised vehicles beyond this point" at specific site entrances; and › Other operational signage required as per site-specific hazards. › An operational phase Health and Safety Plan has been developed to fully address identified Health and Safety issues associated with the operation of the site and provides for access for emergency services at all times. This Health and Safety Plan is updated regularly as necessary. All major components of the wind turbines have an expected lifetime of 26 years and are equipped with a number of safety devices to ensure safe operation during their lifetime. During the operation of the wind farm regular maintenance of the turbines is carried out by the turbine manufacturer or appointed service		

		company. A project or task specific Health and Safety Plan has been developed for these works in accordance with the site's health and safety requirements.		
MM3	EIAR Chapter 5	Regarding Residential Amenity during the operational phase: All mitigation as outlined under noise and vibration, visual amenity and shadow flicker in this EIAR will be implemented in order to reduce insofar as possible impacts on residential amenity at properties located in the vicinity of the Proposed Development. Shadow flicker mitigation is already in operation at the Proposed Development site and will continue throughout any proposed extended operational period. If the need arose, the Proposed Development also has the potential to be brought in line with the requirements of the Draft Revised Wind Energy Development Guidelines (2019) should they be adopted during the planning application phase or operational phase of the Proposed Development. Where daily shadow flicker exceedances have been predicted at buildings by the modelling software, a site visit will be undertaken firstly to determine the level of occurrence, existing screening and window orientation. Should the proposed extended operational period be granted, the shadow flicker prediction data will be used to select dates on which a shadow flicker event could be observed at one or multiple affected properties and the following process will be adhered to. 6. *Recording the weather conditions at the time of the site visit, including wind speeds and direction (i.e., blue sky, intermittent clouds, overcast, moderate breeze, light breeze, still etc.).* 7. *Recording the house number, time and duration of site visit and the observation point GPS coordinates.* 8. *Recording the nature of the sensitive receptor, its orientation, windows, landscaping in the vicinity, any elements of the built environment in the vicinity, vegetation.* 9. *In the event of shadow flicker being noted as occurring the details of the duration (times) of the occurrence will be recorded.*		

		Screening Measures In the event of an occurrence of shadow flicker exceeding guideline threshold values of 30 minutes per day at a residential receptor, mitigation options will be discussed with the affected homeowner, including: › **Installation of appropriate window blinds in the affected rooms** of the residence; › **Planting of screening vegetation;** › **Other site-specific measures which might be agreeable to the** affected party and may lead to the desired mitigation. If agreement can be reached with the homeowner, then it would be arranged for the required mitigation to be implemented in cooperation with the affected party as soon as practically possible and for the full costs to be borne by the wind farm operator. **Wind Turbine Control Measures** If it is not possible to mitigate any identified shadow flicker limit exceedance locally using the measures detailed above, wind turbine control measures will be implemented. Wind turbines have been fitted with shadow flicker control units to allow the turbines to be controlled to prevent the occurrence of shadow flicker at properties surrounding the wind farm. The shadow flicker control units have been installed on a number of turbines. A shadow flicker control unit allows a wind farm's turbines to be programmed and controlled using the wind farm's SCADA control system to change a particular turbine's operating mode during certain conditions or times, or even turn the turbine off if necessary.		

		› Should a complaint be received within 12 months of the operational period of the Proposed Development being extended, field investigation/monitoring will be carried out by the wind farm operator at the affected property. With the permission of the homeowner, the wind farm developer will log the date, time and duration of shadow flicker events occurring on at least five different days from within the dwelling. The provided log will be compared with the predicted occurrence of shadow flicker at the residence, and if necessary, a field investigation will be carried out.		
MM4	EIAR Chapter 6	Regarding Water Quality (Rivers, Streams, Groundwater and Sensitive Aquatic Faunal Species) during the operational phase: Taking a precautionary approach there is potential for indirect effects on otter and other aquatic species such as salmonids, lamprey, white-clawed crayfish, European eel, and aquatic invertebrates due to accidental spillage or leaks of pollutants during the operational phase, including routine maintenance activities on the site. Such an event could create potential for run off of pollutants to watercourses and habitats downstream of the site, potentially affecting water and habitat quality and supporting habitat quality for these species. Whilst no significant effects on water quality are anticipated during the operational phase of the Proposed Development, any potential for effects on water quality associated with the operational phase drainage of the site has been fully mitigated through appropriate design and mitigation as fully described below: › All plant and machinery to be serviced before being mobilised to site; › No plant maintenance completed on-site, any broken-down plant removed from site to be fixed; › Should it be required on site, refuelling will be completed in a controlled manner using drip trays at all times on impermeable surfaces;		

		› Mobile bowsers, tanks and drums stored in secure, impermeable bunded storage areas a minimum of 50m from open water; › Only designated trained operators authorised to refuel plant on-site; and Procedures and contingency plans set up to deal with emergency accidents or spills.		
MM5	EIAR Chapter 6: Appendix 6-1 Bat Report	Regarding Bat Species during the operational phase: In accordance with NIEA Guidelines, blade feathering will be implemented as a standard across all proposed turbines when wind speeds are below the cut-in speed of the turbine. To continually assess the effects of the ongoing wind farm site activities on bat activity, at least 3 years of post-consent monitoring is proposed. Post-consent monitoring will include static detector surveys, manual activity surveys and corpse searching to record any bat fatalities resulting from collision. The results of post-consent monitoring will be utilised to assess any potential changes in bat activity patterns and to monitor the implementation of the mitigation and curtailment strategy. At the end of each year, the efficacy of the mitigation and curtailment monitoring plan will be reviewed, and any identified efficiencies incorporated into the programme. Curtailment will be implemented during periods with significant peaks of activity (i.e. Autumn), with simultaneous activity monitoring taking place. All turbines will be curtailed during the conditions most suitable for bat activity at the site, as outlined below. Draft proposal for SCADA programme to curtail turbines during the following conditions – › Season – mid-August to mid-September › Duration – dusk until dawn		

		› Temperature – 11°C › Wind speed – below 5m/s › Rainfall – less than 3.5mm per hour › The effectiveness of curtailment will be monitored in order to determine (a) whether it is working effectively (i.e. whether bat mortality is detected, thereby confirming its effectiveness), and (b) whether the curtailment regime can be refined such that turbine down-time can be minimised whilst ensuring that it remains effective at preventing casualties.		
MM6	EIAR Chapter 8, 9	Oil used in transformers (at each turbine) and any storage of oils or hydrocarbons within the control building compound could potentially leak during the operational phase and impact on soils and subsoils. Turbine transformers are located within the turbine hardstands, with dedicated concrete foundations, so any leaks would be contained within the turbine transformer units and hydrocarbons would not be able to permeate to ground. In addition: › All plant and machinery to be serviced before being mobilised to site; › No plant maintenance completed on-site, any broken-down plant removed from site to be fixed; › Refuelling completed in a controlled manner using drip trays at all times; › Mobile bowsers, tanks and drums stored in secure, impermeable bunded storage areas away from open water; › Only designated trained operators authorised to refuel plant on-site; › Procedures and contingency plans set up to deal with emergency accidents or spills; and, › Highest standards of site management maintained, and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the site and surrounding environment during works.		
MM7	EIAR Chapter 10	Regarding Exhaust Emissions during the operational phase:		

		› Any vehicles or plant brought onsite during the operational phase will be maintained in good operational order that comply with the Road Traffic Acts 1961 as amended, thereby minimising any emissions that arise.		
MM8	EIAR Chapter 11 EIAR Chapter 11: Appendix 11-11 Noise Management Plan	If specific conditions arise that significant and consistent Amplitude Modulation (AM) is generated, the operator can vary the operating mode to sufficiently mitigate the generation of AM or reduce the overall noise level in comparison to achieve set noise limits. A noise level meter will be deployed at the complainant's property to be representative of the wind farm noise impacts upon the dwelling, whilst attempting to minimise the influence from background noise levels. Typically 6 weeks or monitoring is required, though this may need to be extended depending on wind conditions during the monitoring period. Data analysis will be conducted on the noise measurement data: › Only data where the wind farm was operational will be included › Only data between the hours of 23:00 and 04:00 will be included › Only data within 45 degrees either side of directly downwind of the monitoring location will be included. › Other wind directions and times will be considered if a specific complaint arises further to complainant logs identified repeated concerns › Only data where rainfall was not registered will be included The total measured noise levels inclusive of any penalties will be compared against the background noise level +5dB(A) limit or limits as included within any grant of permission by Wexford County Council. If noise levels are in excess of the background noise level +5dB(A) limit at the complainant's property, a curtailment strategy will be designed to ensure that noise levels from wind farm will reduce either absolute noise levels or reduce the		

		presence of Amplitude Modulation (or a combination of both). Further to the curtailment strategy being initiated, additional noise level monitoring will be undertaken as above to determine the successfulness of the curtailment strategy in reducing operational noise levels to under the background noise level +5 dB(A) limit. Repeated improvements to the curtailment strategy and remeasurement will continue until operational noise levels are under the background noise level +5 dB(A) limit.		
MM9	EIAR Chapter 12	› No significant effects have been predicted for the operational phase of the Proposed Development in relation to Cultural Heritage, therefore no mitigation measures have been proposed.		
MM10	EIAR Chapter 13	No significant effects have been predicted for the operational phase of the Proposed Development in relation to Landscape and Visual Impacts, therefore no mitigation measures have been proposed.		
MM11	EIAR Chapter 14	Regarding Traffic during the operational phase: Due to very low volumes of traffic forecast to be generated during this stage no mitigation measures are required. Regarding Telecommunications during the operational phase: No telecoms operators have highlighted issued regarding the Proposed Development, therefore no mitigation measures are required. Regarding Aviation during the operational phase: The developer will coordinate with the IAA directly should a grant of permission be issued, to ensure that the development remains in compliance with all IAA requirements including lighting requirements. Any further details will be agreed with the Department of Defence, Air Corps and the IAA. The coordinates and elevations for the existing turbines has been supplied to the IAA, as is standard practice for all wind farm developments.		

MM12	EIAR Chapter 15	Potential effects associated with contamination during operation and decommissioning are addressed fully in Chapter 9 Hydrology and Hydrogeology. The mitigation measures outlined in Chapter 9 to protect environmental receptors as well as the procedures and measures described in the Decommissioning Plan (Appendix 4-4) to protect environmental receptors will ensure that the risk from these sources is low. Regarding Fire/Explosions during the operational phase: The Proposed Development will also be subject to a fire safety risk assessment in accordance with Chapter 19 of the Safety, Health and Welfare at Work Acts 2005 to 2014, which will assist in the identification of any major risks of fire on site, and mitigation of the same during operation.		

5. MONITORING PROPOSALS

All monitoring proposals relating to the operational phase of the Proposed Development were set out in the various sections of the Environmental Impact Assessment Report (EIAR) which accompanies this planning application.

This section of the OEMP groups together all of the monitoring proposals presented in the planning documentation. The monitoring proposals are presented in Table 5-1 below.

By presenting the monitoring proposals in the below format, it is intended to provide an easy to audit list that can be reviewed and reported on during the operational phase of the project. The tabular format in which the below information is presented, can be further expanded upon during the course of operation to provide a reporting template for site compliance audits.

Ref. No.	Reference Location	Monitoring Measure	Audit Result	Action Required
		Operational Phase		
MO1	EIAR Chapter 6: Appendix 6-1 Bat Report	Regarding Bat Species Monitoring Proposals during the operational phase: To continually assess the effects of the ongoing Wind Farm site activities on bat activity, at least 3 years of post-consent monitoring is proposed. Post-consent monitoring will include static detector surveys, manual activity surveys and corpse searching to record any bat fatalities resulting from collision. › The results of post-consent monitoring will be utilised to assess any potential changes in bat activity patterns and to monitor the implementation of the mitigation and curtailment strategy. At the end of each year, the efficacy of the mitigation and curtailment monitoring plan will be reviewed, and any identified efficiencies incorporated into the programme. This approach allows for an evidence-based review of the potential for bat fatalities at the Site, and to ensure that the necessary measures are implemented for the protection of bat species locally. The effectiveness of any mitigation/curtailment needs to be monitored in order to determine (a) whether it is working effectively (i.e. the level of bat mortality is incidental), and (b) whether the curtailment regime can be refined such that turbine down-time can be minimised whilst ensuring that it remains effective at preventing casualties.		
MO2	EIAR Chapter 7	Regarding Bird Species Monitoring Proposals during the operational phase: Monitoring measures are proposed as industry best practice rather than in response to any identified impacts associated with the Proposed Development. A detailed Bird Monitoring Programme has been prepared for the extended operational phase of the existing wind farm (refer to Appendix 7-6 for further details). The programme of works will monitor parameters associated with		

		collision, displacement/barrier effects and habituation during the extended operational phase. Surveys will be scheduled to coincide with Years 1, 2, 3, 5, 10 and 15 of the extended operational lifetime of the wind farm. Monitoring measures are broadly based on guidelines issued by SNH (2009). The following individual components are proposed: › **Monthly distribution and abundance surveys: breeding walkover surveys** (adapted Brown & Shepherd) and winter walkover surveys. Targeted bird collision surveys (corpse searches) will be undertaken with trained dogs. The surveys will include detection and scavenger trials, to correct for these two biases and ensure the resulting data is robust.		

6. COMPLIANCE AND REVIEW

6.1 Site inspections and Environmental Audits

Routine inspections of site operations will be carried out on a daily and weekly basis by the Site Manager to ensure all controls to prevent environmental impacts, relevant to the operational activities taking place at the time, are in place.

Environmental inspections will ensure that the works are undertaken in compliance with this OEMP and all other planning application documents. The Site Manager will be suitably trained to undertake environmental site inspections.

7. AUDITING

An Environmental audit will first be carried out monthly during the operational phase of the Proposed Development to ensure the operational phase mitigation measures that are still in place as required are adequate.

In contrast to monitoring and inspection activities, audits are designed to shed light on the underlying causes of non-compliance, and not merely detect the non-compliance itself. In addition, audits are the main means by which system and performance improvement opportunities may be identified. Environmental audits will be carried out by the Site Manager on behalf of the Operation Controller. It is important that an impartial and objective approach is adopted. Environmental audits will be conducted at planned intervals to determine whether the OEMP is being properly implemented and maintained. The results of environmental audits will be provided to project management personnel.

7.1 Environmental Compliance

The following definitions shall apply in relation to the classification of Environmental Occurrences during the operation of the wind farm:

Environmental Near Miss: An occurrence which if not controlled or due to its nature could lead to an Environmental Incident.

Environmental Incident: Any occurrence which has potential, due to its scale and nature, to migrate from source and have an environmental impact beyond the site boundary.

Environmental Exceedance Event: An environmental exceedance event occurs when monitoring results indicate that limits for a particular environmental parameter (as indicated in the Environmental Monitoring Programme) has been exceeded.

An exceedance will immediately trigger an investigation into the reason for the exceedance occurring and the application of suitable mitigation where necessary.

Exceedance events can be closed out on achieving a monitoring result below the assigned limit for a particular environmental parameter.

Environmental Non-Compliance: Non-fulfilment of a requirement and includes any deviations from established procedures, programs and other arrangements related to the OEMP.

7.2 Corrective Action Procedure

A corrective action is implemented to rectify an environmental problem on-site. Corrective actions will be implemented by the Site Manager. Corrective actions may be required as a result of the following;

- Environmental Audits;
- Environmental Inspections and Reviews;
- Environmental Monitoring;
- Environmental Incidents; and,
- Environmental Complaints.

A Corrective Action Notice will be used to communicate the details of the action required to the main contractor. A Corrective Action Notice is a form that describes the cause and effect of an environmental problem on site and the recommended corrective action that is required. The Corrective Action Notice, when completed, will include details of close out and follow up actions.

If an environmental problem occurs on site that requires immediate attention direct communications between the Site Manager will be conducted. This in turn will be passed down to the site staff involved. A Corrective Action Notice will be completed at a later date.

7.3 Operation and Environmental Management Plan Review

This OEMP will be reviewed after every 6 months of operation and may also require updating after the planning application process to comply with any conditions should planning permission be granted.

BIBLIOGRAPHY

Birds Directive (2009/47/EC) – http://ec.europa.eu/environment/nature /legislation/birdsdirective /index _en.htm

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.). The Bat Conservation Trust, London.

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) and Directive 2009/147/EC (codified version of Directive 79/409/EEC as amended) (Birds Directive) – transposed into Irish law as European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011).

APPENDIX 4-4

DECOMMISSIONING PLAN

1. INTRODUCTION

This Planning Stage Decommissioning Plan has been prepared by MKO on behalf of Castledockrell Wind Group Ltd. for the decommissioning of the existing Castledockrell Wind Farm and associated infrastructure, hereafter referred to as the Proposed Development. This document has been prepared as part of an Environmental Impact Assessment Report (EIAR) and planning application to Wexford County Council to extend the operational life of 11 no. of the existing turbines on the Castledockrell Wind Farm (Wexford County Council Ref 2004/4702, ABP Ref 26.211725) for a further period of 20 years beyond the expiry of its current permission, and the a permanent extension to the existing onsite 110kV substation (Wexford County Council Ref 2004/4702, amended under Wexford County Council Ref 2005/3945). Under the Proposed Development, decommissioning of the existing wind farm is instead intended to take place after the proposed additional 20-year period (in 2045), subject to planning permission.

Decommissioning activities have evolved since the original planning application was submitted and this Planning Stage Decommissioning Plan has been prepared in accordance with current technologies, methods and best practice guidance, in particular that of the Scottish Natural Heritage (SNH, now known as NatureScot) 2013 commissioned report '***Research and guidance on restoration and decommissioning of onshore wind farms***'.

Prior to decommissioning, the applicant will engage with the Planning Authority to agree a specific Decommissioning Plan to ensure the use of best available recycling technology and techniques available at the time. This document should, therefore, be considered to be a 'live' document which will be further developed by the appointed decommissioning contractor who will prepare and insert detailed method statements relative to each individual work stream.

This report provides the environmental management framework to be adhered to during the decommissioning phase of the Proposed Development and it incorporates the mitigating principals to ensure that the work is carried out in a way that minimises the potential for any environmental impacts to occur.

1.1 Scope of the Decommissioning Plan

This report is presented as a guidance document for the decommissioning of the Proposed Development. Where the term 'site' is used in the Decommissioning Plan, it refers to all works associated with the Proposed Development, including enabling works. The Decommissioning Plan does not, however, consider the decommissioning of the existing onsite substation as the EIAR and Planning Application are seeking a permanent extension to its lifetime. The Decommissioning Plan clearly outlines the mitigation measures and monitoring proposals that are required to be adhered to in order to complete the works in an appropriate manner. This report is divided into six sections, as outlined below:

- **Section 1** provides a brief introduction as to the scope of the report.
- **Section 2** outlines the Site and Project details, detailing the targets and objectives of this plan along with providing an overview of works methodologies that will be adopted throughout decommissioning.
- **Section 3** sets out details of the environmental controls to be implemented on site including the mechanisms for implementation. A waste management plan is also included in this section.
- **Section 4** outlines the Emergency Response Procedure to be adopted in the event of an emergency in terms of site health and safety and environmental protection.
- **Section 5** sets out a programme for the timing of the works.
- **Section 6** outlines the proposals for reviewing compliance with the provisions of this report.

2. SITE AND PROJECT DETAILS

2.1 Site Location and Description

The Proposed Development site is located 8.1km west of Ferns and 6.5km south of Bunclody, co. Wexford, in the townlands of Kilcullen, Ballynelahillan, Carranroe, Tomatee, Knockduff and Sroughmore. The approximate grid reference location for the centre of the site is ITM E 516272, N 670500.

The existing Castledockrell Wind Farm consists of 12 no. Enercon E70 turbines, each with a rated output of 2.3 Megawatts (MW), and an overall tip height of 120m. The existing wind farm, which was commissioned in 2011, has a total rated capacity of 25.3 megawatts. The wind farm is connected to the National Grid via the existing onsite 110kV substation. All of the existing turbines are located on agricultural land.

No construction activities or alterations to the existing wind farm are proposed beyond routine maintenance of the turbines and electrical infrastructure during the operational phase of the Proposed Development.

2.2 Description of the Proposed Development

Planning permission is being sought for the continued operation of 11 no. of the existing 12 no turbines on the Castledockrell Wind Farm, as permitted by WCC ref 2004/4702 and ABP Ref PL26.211725) for an additional period of 20 years beyond the expiry date on its existing permission (i.e. 2025). It is also proposed to permanently extend the operational life of the existing onsite 110kV substation. The Proposed Development does not comprise any modifications to the existing operational wind farm.

The Proposed Development consists of:

1. *11 no. existing 2.3 MW wind turbines with an overall tip height of 120m and associated hardstands;*
2. *1 no. existing 110kV Substation including 1 no. single story control building, all associated electrical plant and equipment, security fencing and all ancillary infrastructure;*
3. *All existing underground electrical and communication cabling connecting the existing wind turbines to the onsite Castledockrell 110kV Substation;*
4. *Existing internal access tracks; and,*
5. *All existing ancillary infrastructure.*

All elements of the wind farm are pre-existing and it is not proposed to make any alterations to the current site layout, wind turbines or associated infrastructure as part of this application.

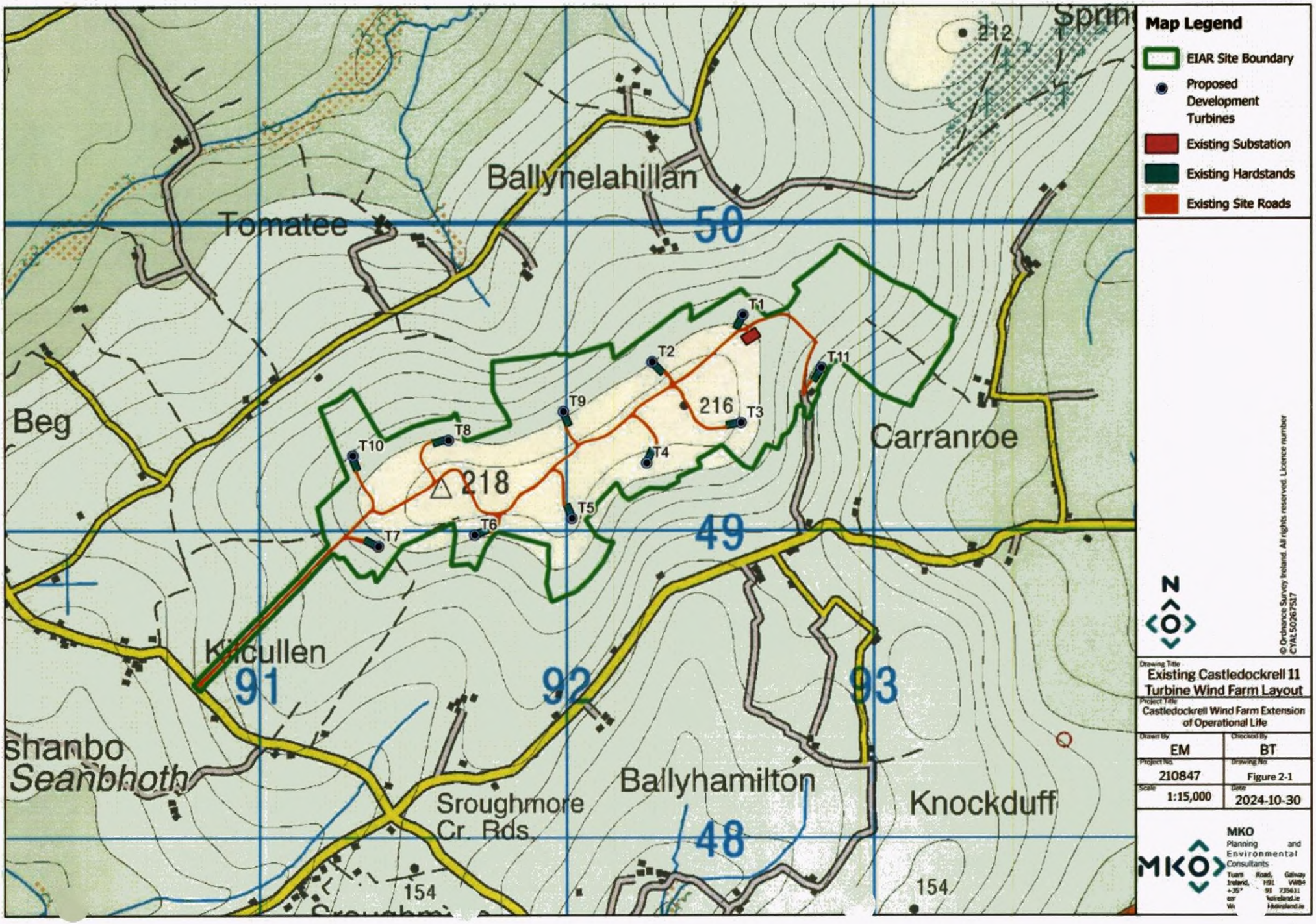
As mentioned above, it is proposed to permanently extend the operational life of the existing onsite 110kV substation, as permitted under WCC Ref 2004/4702 and subsequently amended under WCC Ref 2005/3945. It should also be noted that the existing 110kV underground grid connection, which connects the existing Castledockrell Wind Farm to the National Grid at Lodgewood 220kV substation does not form part of this application and is assessed cumulatively. The planning history of the existing Castledockrell Wind Farm is further detailed in the accompanying EIAR Chapter 2: Background to the Proposed Development and Chapter 1: Introduction to the Proposed Development.

The site layout showing the existing infrastructure of the Proposed Development is shown in Figure 2-1.

As construction has been completed, elements of the project that were developed as a temporary facilitator have either been removed, restored to its original condition or will have naturally revegetated.

All access roads and hardstanding areas form part of a site roadway network which will be required by the ongoing agricultural practices, and therefore will be left in-situ for future use. It is intended that decommissioning will remove the existing turbines and reinstate areas where infrastructure is removed. The following elements are included:

- Wind turbines dismantling and removal off site;
- Electrical cabling removal (ducting remaining), and
- Turbine foundation backfilling (underground reinforced concrete remaining in-situ).


Map Legend
EIAR Site Boundary
Proposed Development Turbines
Existing Substation
Existing Hardstands
Existing Site Roads
Ballynelahillan
Tomatee
Beg
Carranroe
Kilcullen
Seanbhoth
Sroughmore Cr. Rds.
Ballyhamilton
Knockduff
T1
T2
T3
T4
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T11
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N
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Drawing Title
Existing Castledockrell 11 Turbine Wind Farm Layout
Project Title
Castledockrell Wind Farm Extension of Operational Life
Drawn By
EM
Checked By
BT
Project No.
210847
Drawing No.
Figure 2-1
Scale
1:15,000
Date
2024-10-30
MKO
Planning and Environmental Consultants